Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Destrehan Oilseed Processing Plant
Bunge North America, Inc.
Destrehan, St. Charles Parish, Louisiana
Agency Interest Number: 1738
Activity Number: PER19960002
Proposed Permit Number: 2520-00010-V0

I. APPLICANT

Company:
Bunge North America, Inc.
12466 River Rd
Destrehan, Louisiana 70047

Facility:
Destrehan Oilseed Processing Plant
12466 River Rd
Destrehan, St. Charles Parish, Louisiana

Latitude 29° 56' 21" ; Longitude 90° 20' 56"

II. FACILITY AND CURRENT PERMIT STATUS

The Destrehan Oilseed Processing Plant is an existing soybean oil extraction plant. Soybeans are reclaimed from Export Grain Elevator silos. The beans are then mechanically conveyed to the plant for processing. Processing consists of soybean preparation, solvent oil extraction, solvent recovery, storage, and product (soybean, soybean meals and/or soybean oil) shipping.

The processing starts with soybean preparation which consists of six principal operations: scalping, drying, cracking, dehulling, conditioning, and flaking. All between each operation and within each operation are totally enclosed.

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Received soybeans pass over a magnet between bean storage and preparation to remove tramp metal. Screens are used to remove foreign materials such as sticks, stems, pods, sand, and dirt. The soybeans are then passed through the Escher Wyss dryer (Emission Point 3-91) to reduce the bean moisture content to approximately 10 to 11 percent by weight.

The heated soybeans are transferred from the fluidized bed dryer to the cracking mill, and then passed through an aspiration system (primary aspirators) to remove the hulls. The heated cracked beans are fed into a rotary steam tube for "conditioning" to make the bean material pliable and prevent the bean from being broken into powder during the flaking process. Finally the heated, cracked beans are passed between two smooth, cylindrical rolls that press the particles into smooth "flakes" to expose the soybean oil cells for oil extraction.

The extraction process consists of "washing" the oil from the soybean flakes with a hexane solvent in a countercurrent extractor that is maintained under a slight negative pressure. The flakes then are fed to a dryer-cooler (DC) unit in sequence to reduce the moisture. The DC is a stacked pan unit similar to the DT discussed above. The base of each pan in the unit is perforated.

The solvent-laden, deoiled (defatted) flakes are discharged from the extractor to a desolventizer-toaster (DT). Drying and cooling is achieved by passing high volumes of air through the perforations and into each bed of flakes.

The desolventized defatted flakes are then sized (Emission Point 9-91) and the oversized flakes ground for use as soybean meal (Emission Point 10-91) in the finished meal system. All aspirated fines from the Grain Elevator dust tank are blown to the dust tank at the Destrahan Oilseed Processing Plant that is equipped with a bin vent filter (Emission Point 15-96). From the tank the dust is recycled to the meal grinding system.

The ground hulls and non-meal material collected in the hull separation steps are conveyed to hull storage surge with baghouse control (Emission Point 20-97) prior to being pelletized. The hull pellets (for animal feed) and soybean meal are loaded out by the Grain Elevator.

Heat for the bean drying solvent extraction and recovery processes is supplied by two (2) 76.5 MMBTU/hr steam generating units (Emission Point 1A-91 and 1B-91). The primary fuel is pipeline natural gas with distillate fuel oil backup.

In addition, four solvent storage tanks are also present on the site. These tanks are vented to the main solvent reclaim venting system which discharges to the atmosphere through a mineral oil absorption system (Emission Point 7-91).

Fugitive solvent losses occur from mechanical equipment leaks, shutdowns, and breakdowns and are accounted for under Emission Point 13-91.

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The Destrehan Oilseed Processing Plant is a designated Part 70 source. A Part 70 proposed operating permit is being drafted and will be issued for another operating unit within the contiguous single source. This includes:

Permit No.	Unit or Source	Date Issued
2520-00048-V0	Destrehan Grain Elevator	NA*

* Proposed permit is being drafted and (if approved) will be issued around the same time this permit is issued.

The facility submitted timely applications for an initial Part 70 permit for another unit contiguous with this one, which continues to operate under the state permit listed below

Permit No.	Unit or Source	Date Issued
2520-00048-V0	Destrehan Grain Elevator	NA*

* Proposed permit is being drafted and (if approved) will be issued around the same time this permit is issued.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application was submitted on October 01, 1996 requesting a Part 70 operating permit for the Destrehan Oilseed Processing Plant. Additional information dated September 14, 1999. The facility was subsequently revised on February 06, 2004; additional information dated February 09, 2004, February 02, 2005, February 07, 2005, May 13, 2005, and July 14, 2005; revised application and additional information dated February 09, 2007, July 06 and July 11, 2007 were also received. Revised submittals dated August 24, 2007, January 22, 2008, March 28, 2008, May 12, 2008 and October 08, 2008 were also received.

Project

Bunge proposes the following actions:

1. Obtain an initial Part 70 operating permit,
2. Identify all emission sources previously lumped together, re-label those and include those emission points separately,
3. Reconcile and update the emissions using the latest approved calculation methods and reflect the potential to emit of the plant and
4. Incorporate into this permit all approved permit changes at the facility after August 27, 1996, the date on which Permit No. 2520-00010-02 was issued.

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Proposed Permit

Permit 2520-00010-V0 will be the initial Part 70 operating permit for the Destrehan Oilseed Processing Plant.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	48.08	63.22	+ 15.14
SO_2	38.58	38.25	- 0.33
NO_X	70.16	39.27	- 30.89
CO	17.54	56.29	+ 48.75
VOC	414.05	817.01	+ 402.96

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
n-Hexane	412.50	532.71	+ 120.21
Total	412.50	532.71	+ 120.21

Non-VOC Air Toxic Pollutants (TAPs)

Ammonia	NA	2.43	+ 2.43
Chlorine	NA	0.001	+ 0.001
Total	NA	2.431	+ 2.431

Other VOC (TPY): 284.30

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Contiguous Facilities Summary:

The Destrehan Oilseed Processing Plant and its adjacent Destrehan Grain Elevator are contiguous facilities and form a single major source only under the Part 70, Title V regulations. However, these two units do not form a single stationary source under the PSD program because their corresponding SIC codes do not have the same first two digits and are not interdependent as specified in the PSD program.

The permitted and/or estimated emissions from each individual facility, as well as the combined total emissions from both facilities, in tons per year, are as follow:

Facility/Unit	Emissions[1] - TPY					
	PM_{10}	SO_2	NO_X	CO	VOC*	TAPs
Destrehan Oilseed Processing Plant (Permit No. 2520-00010-V0)	63.22	38.25	39.27	56.29	817.01	535.14
Destrehan Grain Elevator (Permit No. 2220-00048-V0)	66.73	0.05	7.47	6.27	0.65	-
Total / Combined Emissions	**129.95**	**38.30**	**46.74**	**62.56**	**817.66**	**535.14**

[1]From the respective applications on the basis of which the initial Part 70 proposed permits were drafted.
*Includes 532.71 tons of n-hexane and 2.43 tons of ammonia.

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
Facility wide	40 CFR 63 – Subpart GGGG – National Emission Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production. [40 CFR 63.2840]	Comply with the oilseed solvent loss factor of 0.20 gal/ton.
CLEAVER BROOKS BOILER 1A-91 and 1B-91	40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial, Commercial, Institutional Steam Generating Units [40-CFR 60.42c]	When burning distillate oil comply with the sulfur dioxide standard by using fuel with sulfur content limitation of 0.5% or less by weight.
CLEAVER BROOKS BOILER 1A-91 and 1B-91	LAC 33:III. Chapter 13. Subchapter C. Fuel Burning Equipment. Particulate matter emission limitation. [LAC 33:III.1313.C]	Comply with the total suspended particulate limit of 0.6 lb/MMBTU of heat input or less (Complies if burning sweet natural gas).
CLEAVER BROOKS BOILER 1A-91 and 1B-91	Emission Standards for Sulfur Dioxide Continuous Emissions Monitoring [LAC 33:III.1511.A] Emission Standards for Sulfur Dioxide Recordkeeping and Reporting [LAC 33:III.1513]	EXEMPT. Units emit less than 250 tons of SO_2 per year. Record and retain at the site for at least 2 years the data required to demonstrate compliance with or exemption from SO_2 standards of Chapter 15. Compliance data shall be reported annually in accordance with LAC 33:III.918.
EQT019 – 17-96 MINERAL OIL STORAGE TANK	NSPS Subpart K – Standards of Performance for Storage Vessels for Which Construction, Reconstruction, or Modification Commences after June 11, 1973 and Prior to May 19, 1978. [40 CFR 60.110]	EXEMPT. Storage tank was constructed prior to June 11, 1973.
HEXANE STORAGE TANK – 2 21B-91	NSPS Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. [40 CFR 60.110b]	DOES NOT APPLY. Storage capacity of the tank is less than 20,000 gallons.

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Prevention of Significant Deterioration/Nonattainment Review

NA

Streamlined Equipment Leak Monitoring Program

NA

MACT Requirements

The facility shall comply with the limit of solvent loss per ton of soy bean processed of 0.20 gal/ton according to 40 CFR 63 – Subpart GGGG – National Emission Standards for Hazardous Air Pollutants (NESHAP) - Solvent Extraction for Vegetable Oil Production.

The facility shall also comply with the two limits included in the Consent Decree (CD) finalized on January 18, 2007 and are stated below:

(a) 0.04 lb/MM BTU of NO_X for the boilers' low NO_X burners (burning natural gas) and
(b) 0.19 gal/ton for solvent loss per ton of soybean processed.

Air Quality Analysis

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})
PM_{10}	24 hour	148.79 $\mu g/m^3$	150 $\mu g/m^3$
n-Hexane	8-hour	3,357 $\mu g/m^3$	4190.00 $\mu g/m^3$

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

The facility's request for permit shields will not be granted. A permit shield has to do with controversial, gray area issues. All of the items listed for which the shield is requested are clear cut and as such do not warrant a permit shield. Furthermore, a permit shield deals with alternate methods for applicability determinations, i.e., identification of ways and means by which compliance with, or exemption from applicable requirements is achieved. Please refer to the guidance on the Department's website. http://www.deq.louisiana.gov/portal/.

VI. PERIODIC MONITORING

Permittee shall keep records of the total fuel oil combusted by both boilers, along with its sulfur content and heating value (provided by the fuel MSDS), and the corresponding calculated SO2 emissions each month, as well as the total fuel oil combusted and the total of the corresponding calculated SO2 emissions for the last twelve months.

Visible emissions of the baghouses filter vents will be monitored by visual inspection/determination daily. If visible emissions are observed, operation of the filter shall be restored to its normal or usual manner of operation as expeditiously as practicable, but at a minimum within three working days, in accordance with good air pollution control practices for minimizing emissions.

Records for at least five years, of the calculated VOC and n-hexane emissions each month, as well as the VOC and n-hexane emissions for the last twelve months shall be kept.

Monitoring of solvent losses will occur and shall be recorded daily.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air

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New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

Prevention of Significant Deterioration (PSD) – A major source preconstruction permit program that has been approved by the administrator and incorporated into the State Implementation Plan to implement the requirements of this Section or the program in 40 CFR 52.21. It is a New Source Review (NSR) permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Any permit issued under such a program is a major NSR permit. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.